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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

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AERONAUTIC INSURANCE

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By Erik Neal.

The birth of commercial aviation two years ago presented the problem of the application of the principles of insurance to the incipient aeronautic industry. This problem cannot be solved, however, in a few months, nor even in a few years, since the necessary statistics are lacking.

Personnel.— Most of the French accident insurance companies combined in 1919 in a "consortium" for the purpose of handling aviation risks in common. The French companies in general insure aviators at the rate of 15% of the salaries for unmarried pilots and 25% for married pilots. Some companies make a uniform rate of 30% for pilots having the civil license class B and 22.5% for class A. The charges for the non-flying personnel are from 3 to 4%.

As regards the flying personnel, it may be said that, though the results have been thus far relatively satisfactory, the margin of profit has not been so large, that the premiums can be considered exorbitant. Moreover, aeronautic insurance must be considered in its entirety and while certain branches are profitable, others yield only a deficit.

On the Paris-London line, for example, the insured losses have exceeded three million francs in two years, and the uninsured

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losses have amounted to a like sum. The premiums for the two years did not exceed two million francs. For this reason, most insurance companies will not accept aviation risks.

Airplanes and seaplanes.- If all the construction firms, aerial navigation companies and pilots were insured, the result would be quite different. The premiums could then be reduced and the aerial navigation companies would not need to increase capital every six months, in order to offset their losses.

Because of the rational and far-sighted provisions of the French regulations regarding the subsidizing of aviation enterprises, the French companies have had a great advantage over their sisters on the other side of the English Channel. They pay only two-thirds of the premiums per airplane and if all were insured, instead of only a few, the premiums could be reduced one-half.

Moreover, the insurance against damage to the airplanes should not be restricted to aerial transportation enterprises, which constitute the normal risk, but insurance should be furnished constructors for covering their large hazards in testing airplanes of new design, in accepting orders for quantity production, operating training schools, etc.

There is a very important policy, covering all risks, as yet but little known, which will surely interest airplane manufacturers. This policy insures against breakdowns and burning of airplanes and responsibility toward third parties for bodily or material injuries during acceptance tests, etc., for a premium of 0.5%

of the value of the airplane per hour of flight. The hours of flight are added up once a month and the premium paid accordingly.

Passengers.- The individual insurance of passengers causes no difficulty. The charge is 0.001 of the amount payable in case of death, per single trip or stop on regular lines. In this policy the passenger or his heirs are entitled to the indemnity, in case of any aviation accident, whether or not the responsibility of the carrier is involved. In practice, the transportation companies have at their disposal books of insurance certificates enabling them to insure the passenger, the amount of the indemnity in case of death being determined by the premium paid.

While awaiting legislative enactments which shall relieve the aerial companies of their responsibility, in whole or in part, it should be borne in mind that certain companies may desire from now on to cover themselves by insurance against possible accidents to passengers. They have two systems to choose between, namely, to pay 10% of the proceeds from the sale of tickets, or 500 francs a year for each seat in each airplane capable of carrying passengers, and this for a guaranty up to 100,000 francs per passenger carried.

Merchandise.- Insurance on merchandise carried by air is much cheaper than when carried by other means. For example, the rate is 1.50 francs per thousand francs by airplane, against 7 per thousand by train or boat. The charges now in effect are:

2.50	fr.	per 1000	Paris-Strassburg, Brussels, Amsterdam;
6.00	"	"	" Paris-Prague,
10.50	"	"	" Paris-Warsaw;
3.00	"	"	" Bayonne-Bilbao;
10.00	"	"	" Toulouse-Casablanca;
2.50	"	"	" Toulouse-Bordeaux.

Breakage of fragile objects and war risks can be covered by special premiums.

Reduction of Premiums.- It is to be desired that all aviation insurance premiums may soon be considerably reduced. The committee of Lloyd's in London is about to establish an aviation register similar to the well-known "Lloyd's Register of Shipping," which will render it possible to estimate each risk and to furnish suitable guarantees, based on complete information concerning pilots, aircraft, repair shops, etc. It is to be desired that such organizations will come into existence in other countries as soon as possible.

Special statistics of commercial aviation, whose figures are already much more favorable than those for war-time or pre-war aviation, will aid greatly in bringing about accord between insurance and aerial navigation companies and will hasten the advent of reasonable and judiciously established charges.

Translated by the National Advisory Committee for Aeronautics.